REMARKS

In this Response to Office Action, no claims have been amended. Accordingly, upon entry of this Response to Office Action, claims 1-3, 5-14, and 16-22 remain pending in this application.

A. Rejections under 35 U.S.C. §112, first paragraph

Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1-3, 5-12, and 14-22 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. Specifically, the Office asserts that the recitation "from the discharge end without explosive decompression" is not in the specification as originally filed.

Applicants acknowledge that while there is no *in haec verba* requirement, newly added claim limitations must be supported in the specification in order to comply with the written description requirement of 35 U.S.C. §112, paragraph 1. However, Applicants further submit that such claim limitations may be supported in the specification through express, **implicit, or inherent** disclosure. (See MPEP §2163.02 and MPEP §2163.05). In particular, it is to be noted that "by disclosing in a patent application a device that **inherently** performs a function or has a property, operates according to a theory or has an advantage, a patent application **necessarily discloses** that function, theory or advantage, even though it says nothing explicit concerning it." (See MPEP §2163.07(a), emphasis added.) Furthermore, "a lack of literal basis in the specification for a **negative limitation** may not be sufficient to establish a *prima facie* case for lack of descriptive support." (See MPEP §2173.05(i), emphasis added.)

In the instant case, Applicants submit that although the recitation "from the discharge end without explosive decompression" is not literally stated in the specification as originally filed, such a recitation still satisfies the requirements of 35 U.S.C. §112, first paragraph, as this recitation is **inherent** in Applicants' specification. Specifically, Applicants submit that one of ordinary skill in the art of manufacturing

confections would recognize that: (1) the product leaving the extruder/mixer, as illustrated in Figure 1 and described at paragraph [0028] (which indicates that a moist mixture discharged from mixer 20 is "dropped" onto conveyor 22), is not consistent with a product that is discharged "explosively" from the extruder/mixer; and, (2) the product being "dropped" onto conveyor 22 and then sieved to break up lumps, is also not consistent with a product discharged "explosively" from an extruder/mixer. The Declaration of Joseph W. Bell (previously submitted) further supports Applicants' position here, inasmuch as it indicated that one of ordinary skill in the art would recognize the claimed processes would not result in explosive decompression.

In view of the foregoing, Applicants submit that the recitation "from the discharge end without explosive decompression" is inherently disclosed and supported in Applicants' specification. Reconsideration and withdrawal of the present rejection is therefore requested.

B. Rejections under 35 U.S.C. §103(a)

Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1-3, 5-12, and 14-22 under 35 U.S.C. §103(a) over U.S. Patent No. 3,305,447 to Reimers et al. (Reimers) alone, or if necessary in view of U.S. Patent No. 4,640,717 to Shukla et al. (Shukla).

1. The Claimed Subject Matter

Claim 1, from which claims 2, 3 and 19 depend, is direct to a process for preparing a free-flowing granular sugar ingredient suitable for forming compressed confections, or the sugar ingredient resulting therefrom. In relevant part, the process comprises:

> feeding granulated sucrose and a solution of corn syrup to a twin screw-fed mixer comprising a feed end, a discharge end, and one or more flights on the screws that cause forward pressure while permitting back

flow, wherein . . . **the corn syrup solution has a solids content of from about 55 to 75% by weight**;

discharging the wet mixture from the discharge end without explosive decompression to a size reduction comminutor to break up lumps;

feeding the comminuted wet mixture to a drier to produce a dried mixture;

feeding the dried mixture to a sieve; and

recovering granules of sucrose bound together by corn syrup solids, wherein from **0% to 10% of the recovered granules will pass through a 100 mesh screen**.

Claim 5, from which claims 6-10 and 21 depend, is also directed a process for preparing a free-flowing granular sugar ingredient suitable for forming compressed confections. In relevant part, the process comprises:

feeding granulated sucrose and a solution of corn syrup to a twin screw-fed mixer comprising a feed end, a discharge end, and one or more flights on the screws that cause forward pressure while permitting back flow . . . ;

discharging the wet mixture from the discharge end without explosive decompression to a size reduction comminutor to break up lumps;

feeding the comminuted wet mixture to a drier to produce a dried mixture; and

recovering granules of sucrose bound together by corn syrup solids, wherein from **40 to 80% of the recovered granules will pass through a 10 mesh screen and be retained on a 60 mesh screen**.

Claim 11, from which claims 12, 13, 16-18, 20 and 22 depend, is directed to a process for preparing a compressed confection, or the compressed confection resulting therefrom. In relevant part, the process comprises:

(a) preparing a granulated sugar ingredient by a process comprising

feeding granulated sucrose and a solution of corn syrup to a twin screw-fed mixer comprising a feed end, a discharge end, and one or more flights on the screws that cause forward pressure while permitting back flow . . . ;

discharging the wet mixture from the discharge end without explosive decompression to a size reduction comminutor to break up lumps;

feeding the comminuted wet mixture to a drier to produce a dried mixture; and

recovering granules of sucrose bound together by corn syrup solids, wherein from **0% to 10% of the recovered granules will pass through a 100 mesh screen**;

(b) mixing the granulated sugar ingredient with flavor; and

(c) compressing the granulated sugar ingredient and flavor to form a compressed candy.

Accordingly, it is to be noted that the present application is directed to a process that provides a dry granular sugar ingredient, which improves the production of compressed, tableted confection products by enabling them to be formed with a higher

initial strength. As a result, the resulting compressed, tableted confection exhibits improved handling and packaging, with fewer broken and chipped tablets. (See, e.g., paragraphs [0001] and [0024].) In particular, Applicants have found that a controlled particle size of the granules collected from the sieve or comminuting device, attributed to the specific process by which the particles are formed, enables compressed, tableted confections to be produced more efficiently, more reliably, and in a more reproducible way. (See, e.g., paragraph [0036].)

2. Reimers

Reimers discloses processes for tabletting sugar. In one embodiment, Reimers discloses that a concentrated invert sugar syrup, or a concentrated corn syrup, containing **about 95% by weight solids** at an elevated temperature of about 135°C, is admixed with granulated sucrose under mixing conditions or turbulent shear and impact action so as to produce a resulting substantially dry, homogenous admixture in a form suitable for immediate grinding to a powdered sugar fineness in ordinary sugar grinding equipment (see col. 2, lines 29-38). Following the mixing operation, the resulting admixture is ground to a desired fineness or particle size, e.g., a particle-size such that **approximately 95%** of this ground admixture **passes through a 200 mesh** Tyler screen (see col. 2, lines 42-48).

Reimers further discloses that the ground sugar admixture exhibits **poor flow properties** and in order to impart thereto the desired flow properties, it has been found necessary in accordance with the practice of their invention to subject the ground sugar admixture to compacting. The resulting compacted sugar, such as in the form of flakes or ribbons, is then granulated, ground or subjected to comminution, such as in a hammermill, to a size having suitable flow and anti-caking properties. Further, Reimers discloses that a suitable mixer is a mixer manufactured and sold by The Strong-Scott Manufacturing Company of Minneapolis, MN, and is known as the Turbulizer.

With respect to the Examples 1-3, it is to be noted that, in each, Reimers discloses that, once prepared, the ground sugar admixture has a particular size such

that 91.6% (Example 1) or 90% (Examples 2 and 3) will pass through a 200 Tyler mesh screen. This material, which has a particle size of less than 0.075 mm, is then transformed into larger flakes or particles. Notably, none of these Examples disclose the use of a corn syrup solution have a **solids content** of from about 55 to 75% by weight. Rather, **Example 1** indicates only that the sugar syrup used therein has, on a dry basis (invert), a **53%** sugar content, while **Examples 2 and 3** indicate the sugar syrup used therein has **93.6%** by weight and **87%** by weight solids content, respectively.

3. Shukla

Shukla discloses a process for the crystallization of sugars (sucrose and glucose) from a supersaturated sugar syrup in which the syrup is subjected to shear in an uncooled nucleation zone to induce nucleation of the syrup. The syrup is discharged from the nucleation zone before substantial crystallization has taken place, and the syrup is thereafter allowed to crystallize without agitation. The nucleation zone may be created by use of a continuous screw extruder, defined as a mixing and milling machine of the type having one or more, and preferably two, rotating screw members.

4. The Claimed Subject Matter is Not Obvious Over Reimers and Shukla

As set forth in M.P.E.P. §2143, in order for the Office to establish a prima facie case of obviousness, three basic criteria must be met: (1) the prior art references, when combined, must disclose each and every element of the claim; (2) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine or modify the references; and (3) there must be some reasonable expectation of success. Further, an obviousness determination is not the result of a rigid formula disassociated from the consideration of the facts of the case. The common sense of those skilled in the art can demonstrate why some modifications and/or combinations would have been obvious where others would not. Finally, as noted in the Examination Guidelines For Determining Obviousness Under 35 U.S.C. §103(a) in view of the Supreme Court

decision in KSR Int'l Co. v. Teleflex, Inc. et al., the Office must provide a reasonable explanation to support any obviousness rejection.

Applicants respectfully submit the Office has failed to establish a prima facie case of obviousness for a number of reasons. First, each and every element of the claims has not been disclosed or suggested by the cited references, alone or in combination. Additionally, or alternatively, Applicants respectfully submit the Office has failed to establish a prima facie case of obviousness because there is simply no motivation to modify and/or combine the cited references as suggested by the Office.

As noted above, independent claims 1, 5, and 11, from which all other claims depend, call for or reference a corn syrup solution to be mixed with granulated sucrose by a **twin screw-fed mixer**. Further, claim 1 requires that the corn syrup solution has a **solids content of from about 55 to 75% by weight.** Finally, claims 1, 5 and 11 all make it clear that, once the wet mixture has been discharged, dried and comminuted, the recovered particles have a particular size distribution; specifically, it is to be noted that:

(i) claims 1 and 11 states that "from 0% to 10% of the recovered granules will pass through a 100 mesh screen," which means that less than 10% of the granules have a particle size of less than 0.152 mm; and,

(ii) claim 5 states that "from 40 to 80% of the recovered granules will pass through a 10 mesh screen and be retained on a 60 mesh screen," which means from 40 to 80% of the granules have a particle size of less than 1.68 mm and greater than 0.251 mm.

These are important aspects of Applicants' claimed invention. Specifically, operation of the method in the manner described in claim 1 (i.e., utilizing a twin-screw fed mixer comprising a feed end, a discharge end, and one or more flights on the screws that cause forward pressure while permitting back flow, wherein the corn syrup solution containing from about 55-75% by weight solids and the granulated sugar are back-

mixed to provide a uniform wet mixture of the sucrose coated with the corn syrup) subjects the granulated sucrose/corn syrup solution to conditions that promote formation of granular sugar ingredients suitable for preparing improved compressed tablet confections. For example, mixing under the conditions described in claim 1 with the particular corn syrup claimed promotes uniform coating of the sucrose particles by the water available in the corn syrup prior to the water of the corn syrup dissolving the sucrose particles. See, for example, paragraph [0030] of Applicants' specification. Further, by choosing a corn syrup with a solids content of from about 55-75% by weight, the corn syrup will be effective to form the free-flowing granular sugar ingredient of Applicants' invention.

Initially, as noted above, Reimers fails to disclose or suggest a corn syrup solution having a solids content of from about 55 to 75% by weight, as is required by Applicants' claim 1. Rather, Reimers discloses combining granulated sucrose with a concentrated invert sugar syrup, or a concentrated corn syrup, containing **about 95%, about 93.6% or 87% by weight solids** (see Reimers at column 2, lines 29-38, as well as column 6, line 19 (Example 2) and line 65 (Example 3)).

Furthermore, Reimers discloses a process that **initially yields** ground sugar particles have a particular size **significantly smaller** than the particles obtained from the processes of claims 1, 5 or 11. Specifically, Reimers consistently indicates that the process **initially yields** sugar particles wherein **90-95%** will pass through a 200 mesh screen, which means they have a particle size of **less than 0.075 mm**. These particles are **significantly smaller** than the particles obtained from claims 1 and 11 (**less than 10%** having a size of less than 0.152 mm), or claim 5 (between **40%** and 80% having a size of less than 1.68 mm and **greater than 0.251 mm**).

Applicants submit that one skilled in the art would have no reason to modify Reimers to use corn syrup with the solids content required by Applicants' claim 1, or to **initially** obtain sugar particles having a size as called for by claims 1, 5 or 11. Specifically, it is to be noted that Reimers discloses the ground sugar admixture initially

obtained exhibits poor flow properties. However, Reimers further discloses a suitable method to remedy these poor flow properties; specifically, Reimers states that "in order to impart thereto the desired flow properties it has been found **necessary in accordance with the practice of this invention** to subject the ground sugar admixture to compacting." This means that Reimers calls for **additional process steps** to be carried out, after the product has been initially prepared, dried and screen, in order to **increase** the particular size and improve the properties. This is **distinctly different** from the processes of claims 1, 5 and 11; in contrast, Applicants have developed a process which eliminates the need for such additional process steps, at least in part by means of selection of a corn syrup having the proper solids contents and/or by means of the twin screw-fed mixer. Inasmuch as Reimers already discloses a method for obtaining better flow properties of their granulated sugar/corn syrup admixture, Applicants submit that one of ordinary skill in the art would lack motivation to modify the processes disclosed therein in order to arrive at Applicants' claimed processes.

Further, Reimers fails to disclose or suggest the use of a twin screw-fed mixer for forming the granulated sugar/corn syrup admixture, as is required by Applicants' claims 1, 5, and 11. Specifically, Reimers discloses that the corn syrup and granulated sucrose are mixed by using a mixer manufactured and sold by The Strong-Scott Manufacturing Company, known as the "Turbulizer." Nowhere does Reimers even suggest that a different mixer may be employed, much less a twin screw-fed mixer as is required by Applicants' instantly claimed invention. Acknowledging Reimers' failure to disclose such a mixer, the Office cites to Shukla. Applicants submit, however, that although Shukla does disclose a continuous screw extruder that preferably has two rotating screw members, one skilled in the art would have **no reason** to combine these two references to arrive at Applicants' claimed invention, as these two references are directed to solving **distinctly different problems**. More specifically, the Reimers reference is directed to processes for tabletting sugar, whereas the Shukla reference is directed to the crystallization of sugars by transformation. Furthermore, Shukla is completely silent with respect to particle size or particle size distribution of the sugar detailed therein.

In view of the foregoing, Applicants submit that the cited references, both alone and in combination, fail to disclose each and every element of the claims. Furthermore, Applicants submit motivation to combine references is not found simply because two references deal with issues in the same general field, i.e., processes involving sugar. As such, even though the cited references are dealing with the same general field, there would be no apparent reason for one of ordinary skill in the art, reading the Reimers reference, to look to Shukla for combination, since the references are directed to solving distinctly different problems. Finally, Applicants submit that, in view of the fact that Reimers provides an apparent solution to the problem disclosed therein (i.e., flow properties) and Shukla is silent with respect to particle size and/or flow properties of the particles, there is simply no motivation to modify the disclosure provided therein in order to arrived at the claimed processes.

Accordingly, Applicants submit the cited references, both alone and in combination, fail to disclose or suggest each and every element of the claimed processes, and also fail to provide sufficient motivation to one of ordinary skill in the art in order to arrive at the claimed processes. Reconsideration and the withdrawal of the rejection of independent claims 1, 5 and 11 are therefore requested.

Inasmuch as all of the remaining claims depend directly or indirectly from one of claims 1, 5 or 11, these dependent claims are submitted as patentable over Reimers and Shukla for at least the reasons set forth above for the claim from which they depend. Accordingly, reconsideration and withdrawal of the rejection of these claims is also respectfully requested.

CONCLUSION

In view of the foregoing, Applicants respectfully request reconsideration of the rejection of claims 1-3, 5-14, and 16-22 and allowance of all pending claims.

Applicants do not believe any fees are due in connection with this Response to Office Action; however, the Commissioner is hereby authorized to charge any fees which may be required to Deposit Account No. 01-2384 in the name of ARMSTRONG TEASDALE LLP.

Respectfully submitted,

/ Derick E. Allen /

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